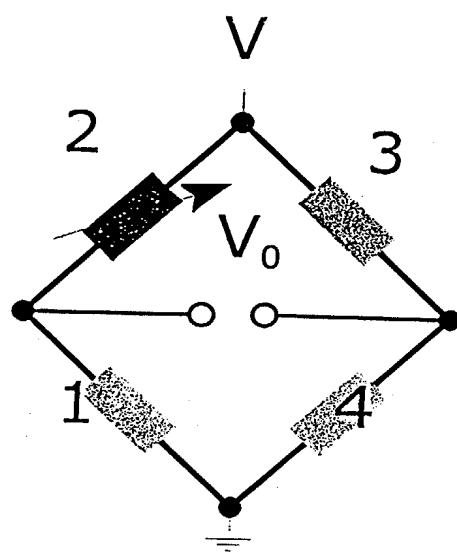
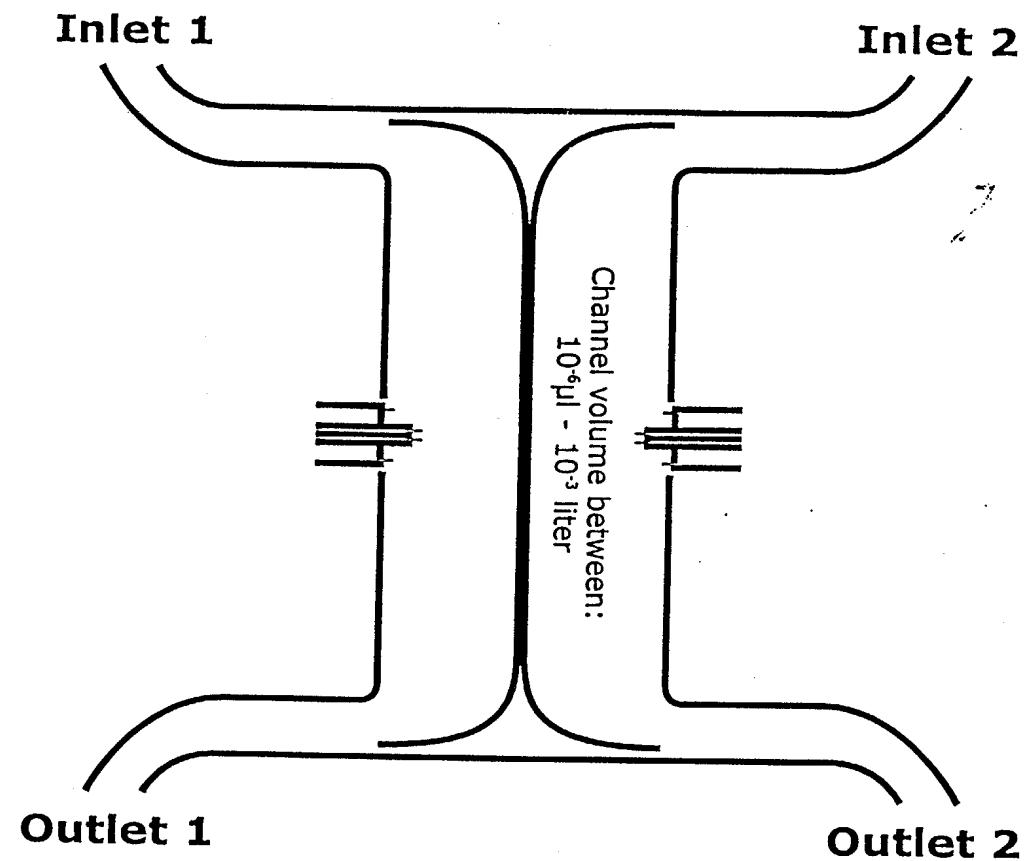


2

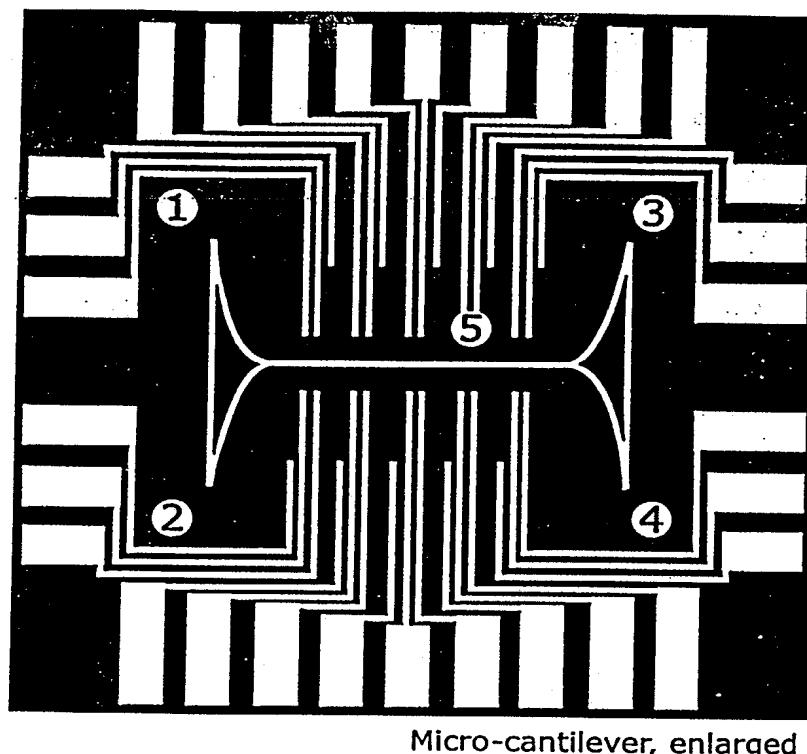


3,



**Flow channel from above**

A.



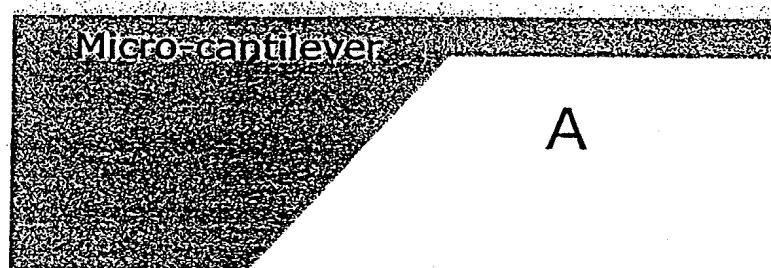
Channel volume between:  
 $10^{-6}\mu\text{l} - 10^{-3}$  liter

B.

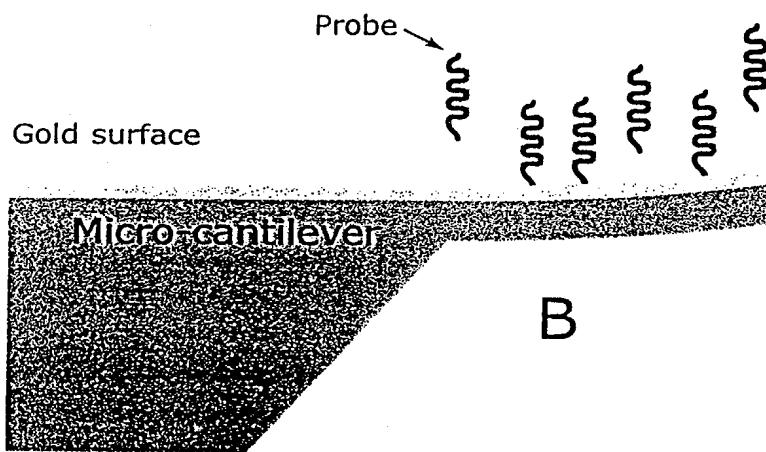


Micro-cantilever, actual size

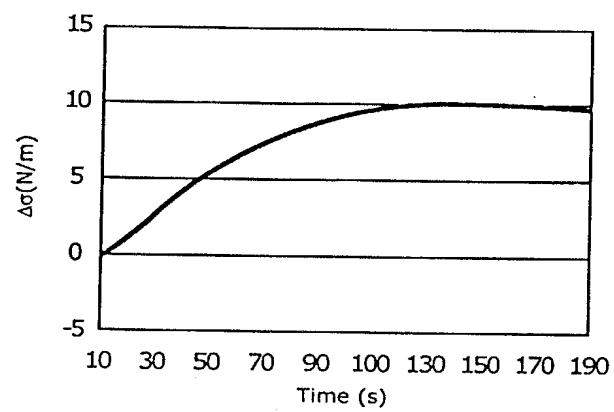
Gold surface



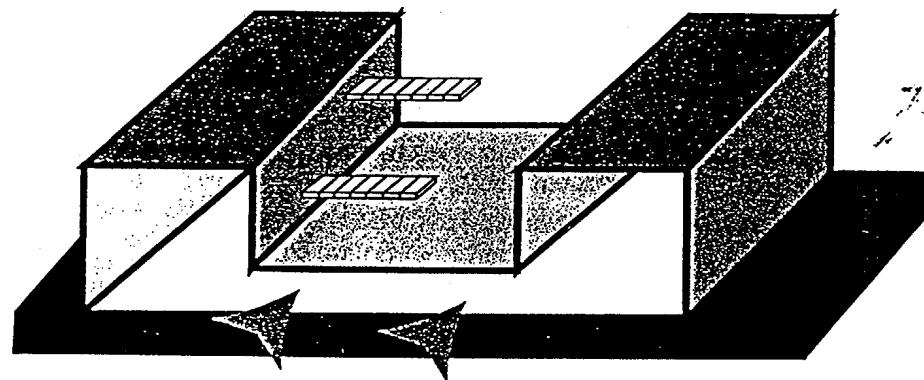
- The oscillating cantilever



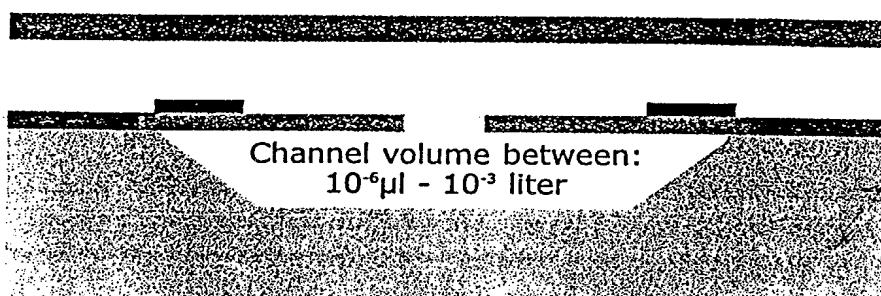
- The oscillating cantilever with attached probe



Channel volume between:  
 $10^{-6}\mu\text{l} - 10^{-3}\text{ liter}$



**Flow channel from side in 3D**

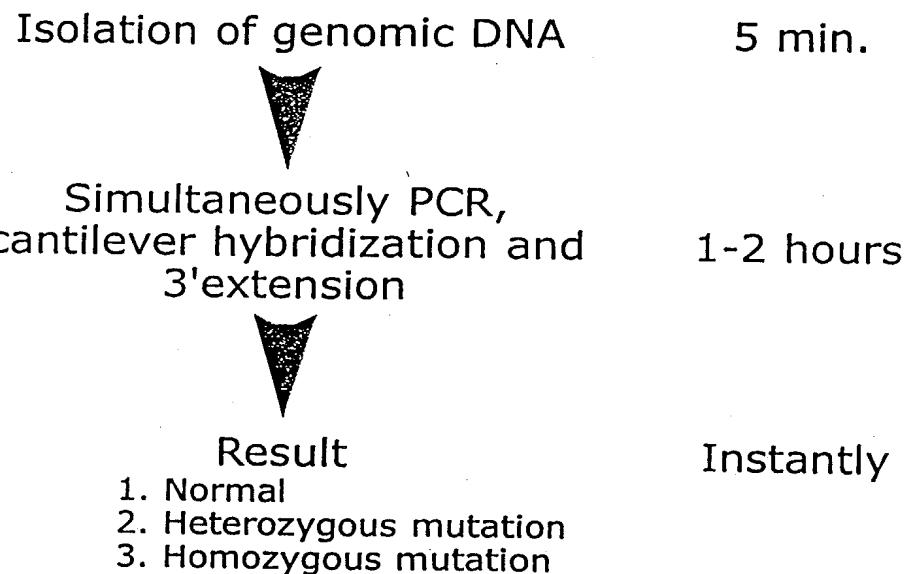


Channel volume between:  
 $10^{-6}\mu\text{l}$  -  $10^{-3}$  liter

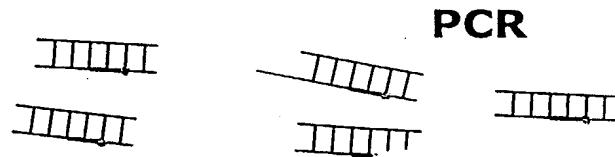
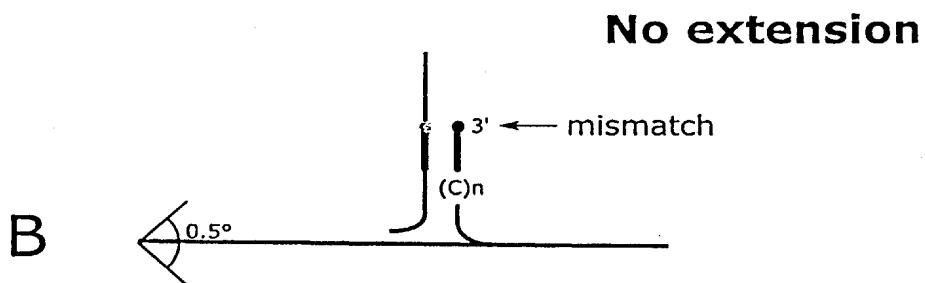
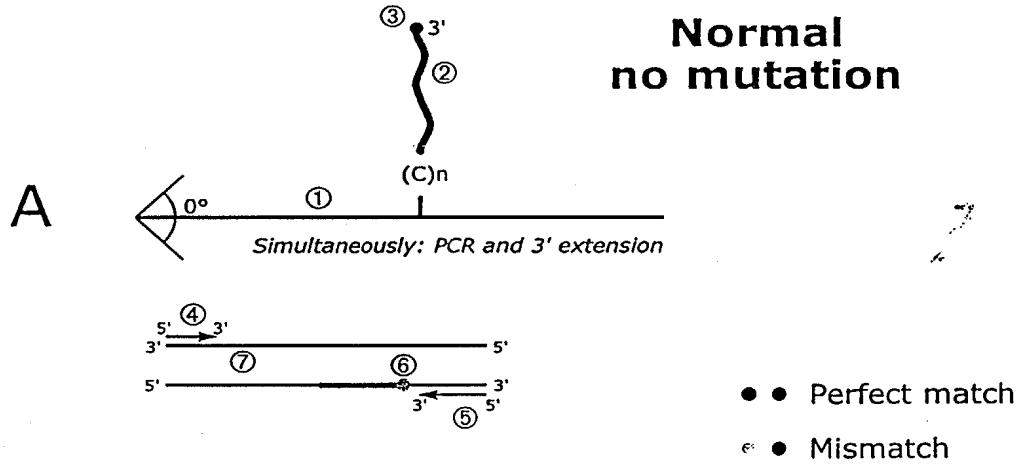
## Flow channel cut-through

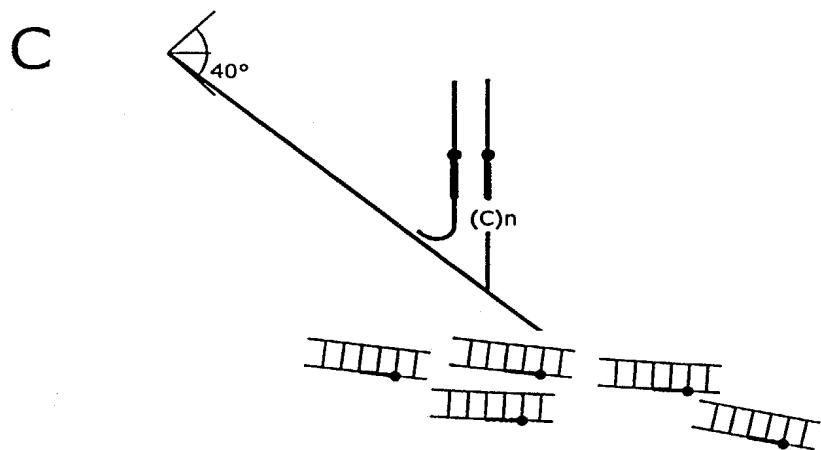
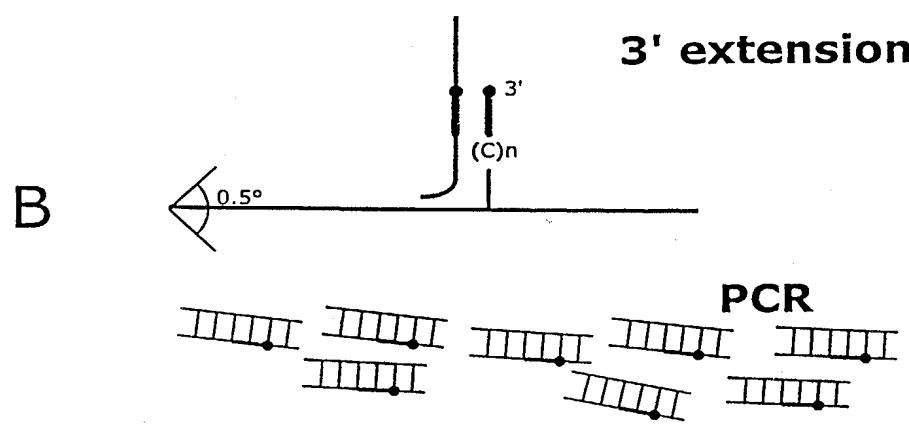
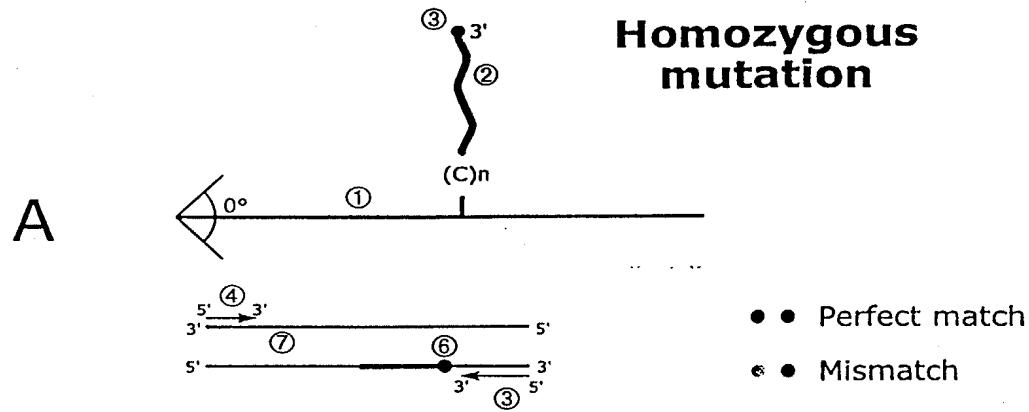
## Flowchart for mutation detection

Time



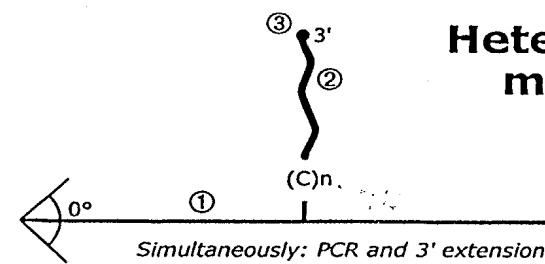
## Start material: DNA



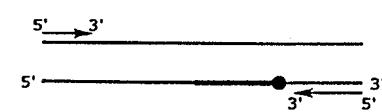


## Heterozygous mutation

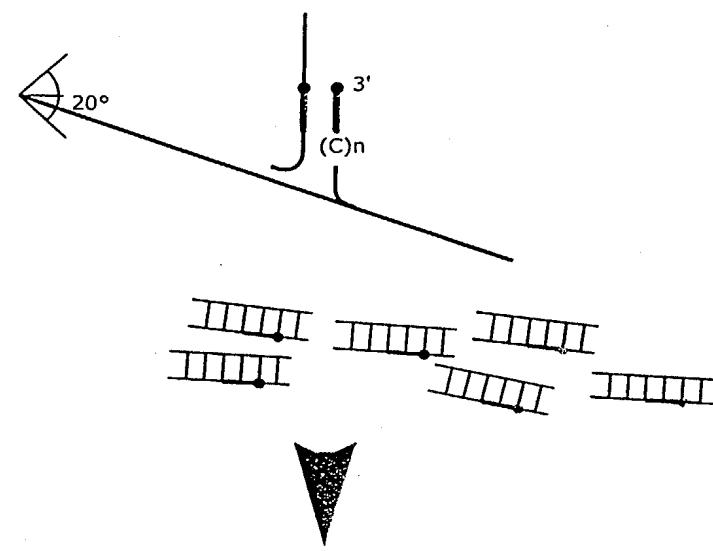
A



- • Perfect match
- • Mismatch

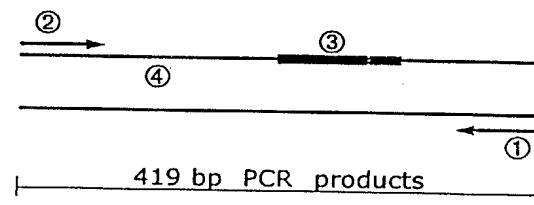


B



1/2 signal  
compared to  
homozygous mutation

## **Detection of $\Delta 508$ mutation of the Cystic Fibrosis gene**



**Flowchart  
for specific detection  
of RNA molecules**

**Time**

**Isolation of RNA**

**30 min.**

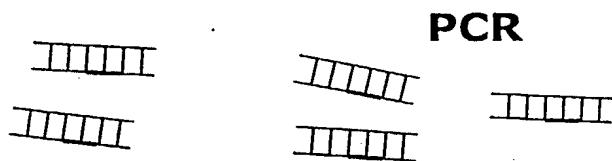
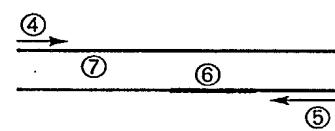
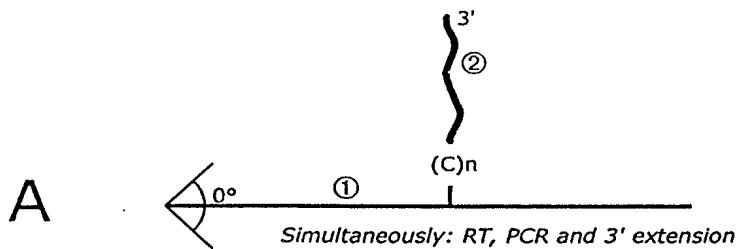
Simultaneously RT, PCR,  
cantilever hybridization and  
3'extension

**1-2 hours**

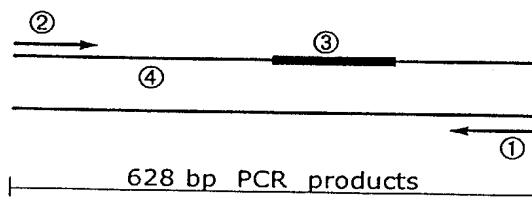
**Result**

**Instantly**

## Start material: RNA



## **Detection of Interleukin 6 (IL6)**



## Detection of Glyceraldehyde-3-Phosphate- dehydrogenase (GAPD)

